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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,429	07/29/2003	Kazutoshi Toda	F-7899	7843
28107	7590	04/13/2004		
JORDAN AND HAMBURG LLP 122 EAST 42ND STREET SUITE 4000 NEW YORK, NY 10168			EXAMINER RODRIGUEZ, PAMELA	
			ART UNIT 3683	PAPER NUMBER

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,429

Applicant(s)

TODA ET AL.

Examiner

Pam Rodriguez

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/799,270.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because line 7 of the word "row" should read --raw--. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities: on page 9 last paragraph the term "H1" refers to a depth, while on page 10 line 2 this same term also refers to a radius. Applicant should not use one term to refer to two different parts of his invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the raceway surface" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertetti.

Regarding Claim 7, Bertetti discloses a bearing device 3 (see Figure 1) having most all the features of the instant invention including: a shaft body 1, a rolling bearing 3 mounted around the shaft body (see Figure 1), wherein the shaft body 1 is provided at its free end with a portion 41, wherein the portion 41 is bent outward in a radial direction for pushing an end face of an inner ring 15 of the rolling bearing thereby preventing the

rolling bearing from falling out (see Figure 5 and column 4 lines 41-51), and wherein hardness of a peripheral region 36 of an inner peripheral corner of the inner ring 15 is set to a value capable of plastically absorbing a load at the time of manufacture (see column 4 lines 4-10).

However, Bertetti does not disclose that the portion which is attached to the free end of the shaft portion and bent outward in a radial direction to push the end face of the inner ring to prevent the bearing from falling out is a "caulked portion" and thus, that the hardness of the peripheral region of the peripheral corner of the inner ring would be set to a value capable of plastically absorbing a load at the time of caulking.

Regarding the caulked portion of the shaft body, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the retaining portion for the bearing of Bertetti to be a caulked portion as caulking is a well known form of mechanical adhesion in the bearing art. Substituting a caulking connection for the deformable ring connection of Bertetti would merely be another means of ensuring that the bearing was adequately attached to the shaft portion and would not be beyond the realm of one of ordinary skill in the art to employ. (Note: cited U.S. Patent Nos. 6,363,799 and 6,398,419 both demonstrate how such a caulking connection is known in the art).

And along these same lines, since Bertetti already discloses that the hardness of the peripheral region 36 of the inner ring would be set to a value capable of plastically absorbing a load, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the peripheral region of the inner ring

of Bertetti to also be capable of absorbing the load at the time of caulking, as the metal in which the inner ring is constructed is always designed to be plastically deformable as outlined in column 4 lines 4-10, thus, it would remain deformable during a caulking process as well.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,398,419 to Kashiwagi et al in view of Bertetti.

The applied Kashiwagi et al reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding Claim 7, Kashiwagi et al disclose a bearing device (see Figure 1) having most all the features of the instant invention including: a shaft body 12 and a rolling bearing 2 which is mounted around the shaft body 12, wherein the shaft body 12 is provided at its free end with a caulked portion 3, wherein the caulked portion 3 is bent outward in a radial direction for pushing an end face of an inner ring 21 of the rolling bearing 2, thereby preventing the rolling bearing from falling out (see Figure 2).

However, Kashiwagi et al do not disclose that a hardness of a peripheral region of an inner peripheral corner of the inner ring is set to a value capable of plastically absorbing a load at the time of caulking.

Bertetti is relied upon merely for disclosing a bearing device 3 (see Figure 1) having a shaft body 1, a rolling bearing 3 mounted around the shaft body (see Figure 1), and wherein hardness of a peripheral region 36 of an inner peripheral corner of an inner ring 15 is set to a value capable of plastically absorbing a load at the time of manufacture (see column 4 lines 4-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the peripheral region of the inner ring of Kashiwagi et al to be capable of plastically absorbing a load as taught by Bertetti, at the time of caulking, as the metal in which the inner ring is constructed is always designed to be plastically deformable as outlined in column 4 lines 4-10 of Bertetti, thus, the inner ring would remain deformable during a caulking process as well.

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claim 8 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. The following is a statement of reasons for the indication of allowable subject matter: Regarding Claim 8, while EP document no. 0854303 to Miyazaki et al disclose a bearing device having a shaft body, a rolling bearing, wherein the shaft body is provided at its free end with a caulked portion, wherein the caulked portion is bent outward in a radial direction for pushing an end face of an inner ring of the rolling bearing, and wherein the inner ring of the rolling bearing is entirely hardened by heat treatment in order to prevent abrasion resistance and strength of a raceway surface and Japanese patent no. 2002-254901 to Ozawa et al disclose a bearing assembly wherein a region of the shaft body is low-hardened in relation to a different hardened portion of the bearing assembly, neither of these references taken either alone or in combination disclose that a peripheral region of an inner peripheral corner of the inner ring is low hardened by local quenching after the heat treatment. It is for this reason that Claim 8 defines over the prior art of record.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Nos. 6,280,096 and 6,422,758 to Miyazaki et al both disclose bearings having inner ring structures with hardened raceway surfaces similar to applicant's.

Valette et al disclose a bearing having an inner ring with a portion of which that can be hardened.

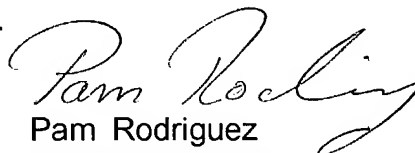
U.S. Patent Nos. 6,363,799 and 6,619,852 both to Toda et al both disclose bearings having inner ring structures, crown-like retainers, and caulking portions similar to applicant's.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pam Rodriguez whose telephone number is 703-308-3657. The examiner can normally be reached on Mondays 6 am -4 pm and Tuesdays 6 am -12 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Pam Rodriguez
Primary Examiner
Art Unit 3683
4/5/04

PR
04/05/2004